

Remarks by  
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to the  
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I am very pleased to be able to be with a group of fellow professionals today. My feeling derives, in part, from an appreciation of the fact that the National Technical Association long ago recognized the need for advancing the status of the black engineer and the black scientist, and encouraging the entry of black youth into the technical field. The pioneering the Association did in these areas is certainly a factor in the wide acceptance these objectives now enjoy.

While this should be a source of pride and satisfaction to you, I hope that your achievement will not induce a relaxation of your efforts. Groups such as the NTA are as much needed now as they were forty years ago. I earnestly hope you will carry on.

Today I want to talk to you about a facet of our space program which usually has been discussed only in its more obvious aspects. I refer to its essential universality. It extends across virtually every scientific discipline, and every branch of technology. Indeed, when the Congress wrote the charter for our national program to explore this new environment, it stipulated that we should undertake this enterprise "for the benefit of all mankind."

Now a dozen years later, we can state without reservation that this has been the case. Space has worked for people -- all people. Take the meteorological satellite program, for example. The weather is no respecter of race, creed, color or sex. Regardless of who we are or where we come from, if we go out in the rain we get wet. Accordingly, we all benefit equally from the Tiros and Nimbus meteorological spacecraft which are doing so much to improve weather forecasting, and give warning of violent storms.

When an international telecast is relayed via an Intelsat communications satellite to a ground receiver for dissemination, it makes no difference what color the hand that turns the knob on the TV -- black, white, brown, yellow or red -- the picture comes through.

Nor is there any segregation of the advances in medical technology that have come from the space program. The microminiature transducer, so small that it can be inserted into the chamber of the heart itself, is there to help all heart patients. The greatly improved materials developed in space research -- the super alloys; strong, heat-resistant plastics; ball bearings with six times the life of those presently in use -- will work for everyone's benefit. And I hardly need underscore for this professional audience the wide application that the development of new technologies, such as cryogenics and honeycomb structures, will have.

I could cite a long list of other advances already achieved, or to be achieved, in the near future -- such as those involved in the earth resources program. But there is no purpose in belaboring further a point that is beyond successful challenge. Space is working for all people, and nothing is going to change this happy circumstance.

So far, so good. But, to be complete, there is another side of the coin that we should examine: that is, the people who work for space. We need to address ourselves now to the question of whether there is an equitable representation of persons of minority backgrounds in the space effort.

Where the intrinsic universality of space and space work took care of the first problem, the matching broad participation of women and of representatives of minority groups is not there. Let's look at some facts. In the total NASA staff, the percentage of minorities and women on the payroll reaches a presentable figure. But if we take the professional staffs alone, the percentage drops sharply.

There are other imbalances. Some of our offices are almost all white and all male. Others have an overabundance of minorities. In all candor, I am less concerned with how this came about than I am with applying the corrective. My sincere concern, at this point, is not only that space shall continue to work for all people: but also that all people shall participate in the space effort.

And particularly to that last am I committed.

This is wholly consistent with the determination of President Nixon that employment opportunities for minorities and women shall be improved. To do this, special considerations will have to be offered. Special techniques and organizations are required to compensate for decades -- even centuries -- of bias. If we plan properly, and put the plan into effect, we can both provide better opportunities and bring fresh resources into the work force.

I am a realist. I recognize that this will not be easily or quickly done. For example, in the past three years, NASA has been in what the bureaucrats describe as a "reduction-in-force" mode. To translate, this means that we have had to lose some thousands of people. Thus, bringing minorities and women into the mainstream of Agency operations will have to be done under severe constraints.

Nevertheless, it must be done for a number of reasons.

First, it is a matter of morality. It is the right thing to do. But more than that -- though it would be reason enough -- there is a matter of self-interest.

More than most other agencies, NASA's work prospers because of the expertise, the ingenuity and the creativity of the people in the organization. Nevertheless, within NASA, woman power and minority manpower represent a pool of talent and professional skills which are greatly underused. It is important that these talents and these skills make a maximum practical contribution to the space effort.

In so saying, I speak from Agency experience. It was my pleasure, last Monday, to present NASA's Exceptional Scientific Achievement Medal to Dr. George Carruthers, a black astrophysicist from the Naval Research Laboratory. With an associate, Dr. Thornton Page, Dr. Carruthers designed and built a far-ultraviolet camera/spectrograph that was flown on Apollo 16. The camera was set up on the lunar surface in the shadow of the lunar lander, and took more than 200 plates of the earth and the galaxy. The color enhancements of these photographs are spectacular even to the untrained eye. One shows the earth with a geocorona of low density hydrogen, extending more than 40,000 miles into space. I am told that it will take about two years for Dr. Carruthers and his fellow astrophysicists to extract all the new information from these plates. Nevertheless, from an initial and superficial inspection, it is apparent that the experiment has supplied astronomy and astrophysics with a new dimension and a vast quantity of vital new data.

I am sure that a number of you in this audience know something of Dr. Carruthers' work. Before his camera/spectrograph was flown on Apollo 16, he was known here and abroad as a leader in his field. In presenting him as an example, I recognize that a talent of this magnitude would force recognition regardless of social barriers -- race, sex or religion. Nevertheless, it reinforces my point that among the minorities and women there is much talent -- perhaps not always of so dynamic a character as that of Dr. Carruthers -- which can be identified and given an opportunity to develop.

When I speak of bringing members of the minorities and women into the mainstream of space work, I do so with strong convictions. This will not be an exercise in "tokenism," nor will they be restricted to such ground-based duties as launch engineers or as computer programmers. We have some in these categories already, and will have more. We are now in the research phase of the launch vehicle-spacecraft of the future -- the space shuttle. The reusable spacecraft of this combination can make a hundred flights. It rides pick-a-back on a recoverable booster and goes the last leg into orbit on its own power. After completing its mission, it re-enters and lands on an airstrip as though it were an aircraft.

This versatile vehicle will carry human payloads as well as instrument packages. We are planning now for shuttle flights. It will carry minority and women scientists into orbit.

But this represents the future. The present is of more immediate interest. I would therefore like to turn to the question of what the Administrator of NASA can do about applying this principle of universality to the personnel side of the space coin. This question divides into three parts. The first is what is being done, and can be done, within the space agency. The second is a more vigorous follow-up with our contractors to make sure that they are fulfilling their contractual obligations as equal opportunity employers. Finally, making more of NASA's programs available to minority manufacturers, both directly in terms of contracts and indirectly in terms of spin-offs for commercial production.

To take these in sequence: -- NASA has always been an equal opportunity employer. Among the Federal Agencies, our track record is better than some, and not as good as others. Therefore, the problem has been not so much a matter of setting policy, as of more effectively implementing a policy already established. Rather than rely solely on our own in-house resources, NASA convened an Equal Employment Opportunity Conference this spring at the Kennedy Space Center. From the Conference workshops, we received a number of specific proposals. Several were adopted immediately and others are being studied for the best ways of putting them into effect.

A workshop recommended that NASA establish an EEO Council made up of key staff and program officers. This recommendation was put into effect immediately. We are also moving to appoint full-time EEO officers in each of NASA's field facilities, another workshop proposal. These officers will be spotted in the table of organization so that they have unimpeded access to the decision-making level at each of the Centers.

These moves create an administrative structure in which the EEO program can move forward. But we will progress only if the structure is staffed with leaders who are dedicated to the objectives of the program. We are selecting officers who believe in action, because we recognize that considerably more than lip service is necessary if we are to get the job done.

NASA's internal EEO program is under the direction of Mrs. Ruth Bates Harris. Mrs. Harris has had a distinguished career in public service. Her ability and energy have been widely recognized, and she has shown deep sensitivity to human needs and values. A program of this kind must have follow-through at lower levels if it is to be effective. With Mrs. Harris in charge, this essential follow-through is a certainty.

Two other aspects of NASA's EEO program are of possible interest. We will pay particular attention to units in the NASA organization where minority representation is nil, or in low ratio. In instances of this kind, every effort will be made to fill the vacancies that occur with minority representatives or women. We intend to remove imbalances of this kind with all practical speed: by transfer, training, promotion or any other means that seems appropriate.

As the members of this audience know far better than I, discrimination can be blatant or it can work in very subtle ways. Thus, in the area of promotions, it is often difficult to say whether discrimination has entered into the failure of minority employees to advance. Whatever the reason, it is evident that they do not move up the promotion ladder as quickly, or as often, as their white colleagues. We are, therefore, considering an expansion in our education and training programs, with emphasis on minority participation. These programs will be tailored to prepare those who take part for advancement.

I recognize that NASA's EEO program is ambitious. Indeed, I couldn't be satisfied with a program that was not. In principle, every person, regardless of color or sex, should be given the opportunity to progress as far as abilities and ambition allow. Only in this circumstance can an individual find fulfillment as a human being, and, at the same time make his, or her, maximum contribution in the area of his specialty.

Now, let's examine briefly the second phase of minority employment with which NASA is concerned. I refer to the question of contractor compliance with government regulations covering minority employment. The problem here is seeing to it that the contractor adheres to the spirit as well as the letter of his obligation. For example, in evaluating the bids on the shuttle contract, an aggressive program of minority hiring will be a major consideration.

But, in the final analysis, the burden rests on the vigor and thoroughness with which the NASA compliance staff does its job. The compliance program is under the overall direction of Robert King, who is a co-worker of Mrs. Harris. There has been steady progress in the compliance sector, and we expect the improvement to continue.

Further, we are mid-course on a minority employment program which affects NASA's on-site contractors. The objective is to attain a percentage in minority employment on the contractor's work force that matches the ratio of minorities in the population of the surrounding area. In specific terms, this means a commitment to increase the percentage of minority employment from 9.3 to 20% by early 1976. Again, this is an ambitious goal. But the level of increase set for the first year has already been surpassed, so I think optimism is justified. In addition, last April, contractors were assigned quotas for women and a time schedule for meeting the quotas. Mr. King and his colleagues are responsible for riding herd on the contractors, and checking on their performance.

On the subject of NASA contractors, I think minority business should make itself aware of the special consideration NASA gives small business. The President's budget message on science and technology, issued last March, called for legislation to encourage the development of small high-technology firms. The message further made a number of proposals to facilitate the financing of such relatively high-risk ventures. These proposals are worth the attention of minority entrepreneurs.

Each NASA Field facility, and Headquarters as well, has a full-time small business specialist who reviews each procurement to see if it meets "set aside" requirements. In situations, for example, where there are a number of small businesses of established capability to guarantee truly competitive bidding, the procurement is reserved exclusively for small business. In addition, there is a class "set aside" for small business, encompassing all construction work between \$2,500 and \$500,000. To show how this has worked, in 1971, 73% of NASA's construction expenditures went to small business.

Most minority business also qualifies as small business.

Because of this, and because the objectives are the same, we have generally patterned our efforts in the minority contracting area after those demonstrated to be effective in the area of small business contracting. We continually seek out requirements that lend themselves to prime contract awards to minority firms. We have a vigorous program to encourage and motivate our prime contractors, in turn, to place subcontracts with minority firms wherever practical.

This effort is already showing modest results. During the last 18 months, NASA let 51 contracts -- worth more than \$2 million -- to minority owned concerns. Moreover, we are now seeing evidence that our large prime contractors are increasingly placing subcontracts with qualified minority concerns. Thus, the figures I have cited should show a steady increase as NASA's efforts are intensified and we continue to apply pressure to the prime contractors. It is, I hope, a good beginning.

The third part of the problem of achieving universality on the non-space side of the coin has more potential than we first realized. This concerns the transfer of NASA-developed technologies to commercial production in areas not related to space. Time does not permit me to describe in detail here NASA's Technology Utilization effort. It is enough to state that we invest some \$4 million a year in identifying inventions,

innovations and technological advances which have applications to sectors other than space. We offer active assistance to industry, both large and small, so that they may benefit from these developments.

Some of you may not know that the NTA has volunteered to assist NASA in its effort to transfer technology. We greatly appreciate this offer and will certainly take advantage of it.

Here again is an area that has great promise for the minority business man or manufacturer. Some months ago NASA let a contract to a Philadelphia organization -- the Opportunities Industrialization Center -- to review NASA technology for developments that had commercial possibilities for minority manufacture. The OIC study found more than twenty such -- products for which there was a market, and where the profit potential was attractive. One of these was an instrumented system to measure and identify various psychomotor phenomena of an individual. It is the kind of device that would be useful to the personnel office of an industrial firm. It has biomedical uses, can be employed in student testing programs and in schools, or wherever motor and proficiency skills are a matter of interest. A minority firm is now producing the system, which ought to reach the market in the near future. The prognosis on this enterprise is good.

I have tried, today, to give you an honest overview of our interest in minority employment and in minority owned business. This interest is real. I think we are expressing it through strong programs which are beginning to show results. Let me leave you with the assurance that the full weight of my office and the Agency is behind them. They have unqualified institutional support as well as support by the President.

Thank you.

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